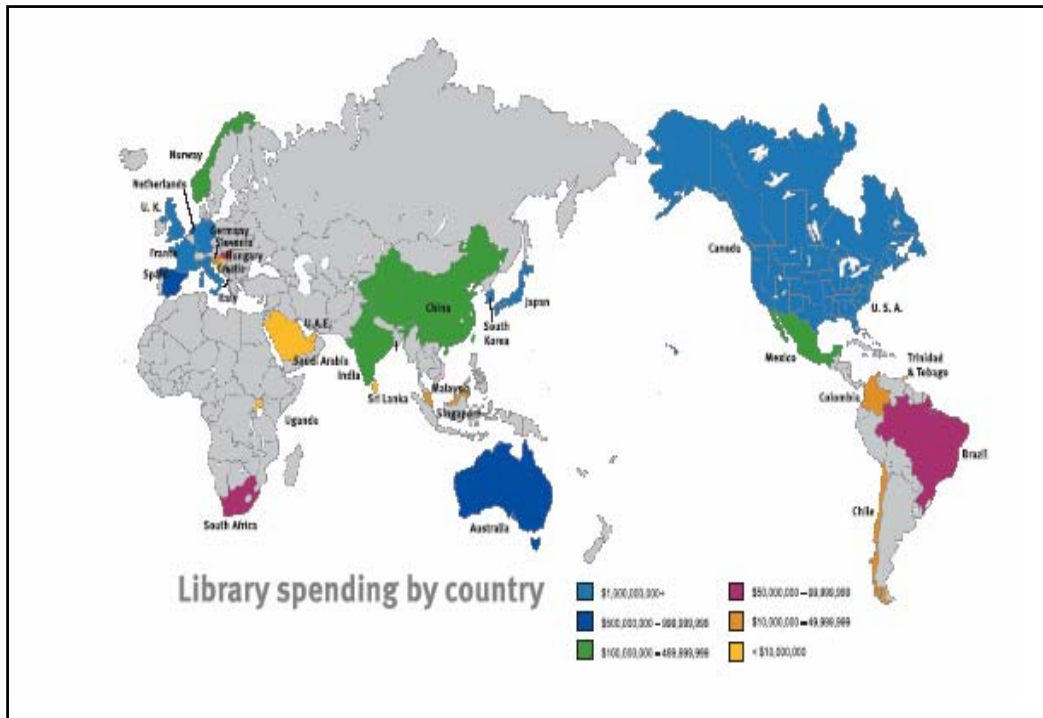


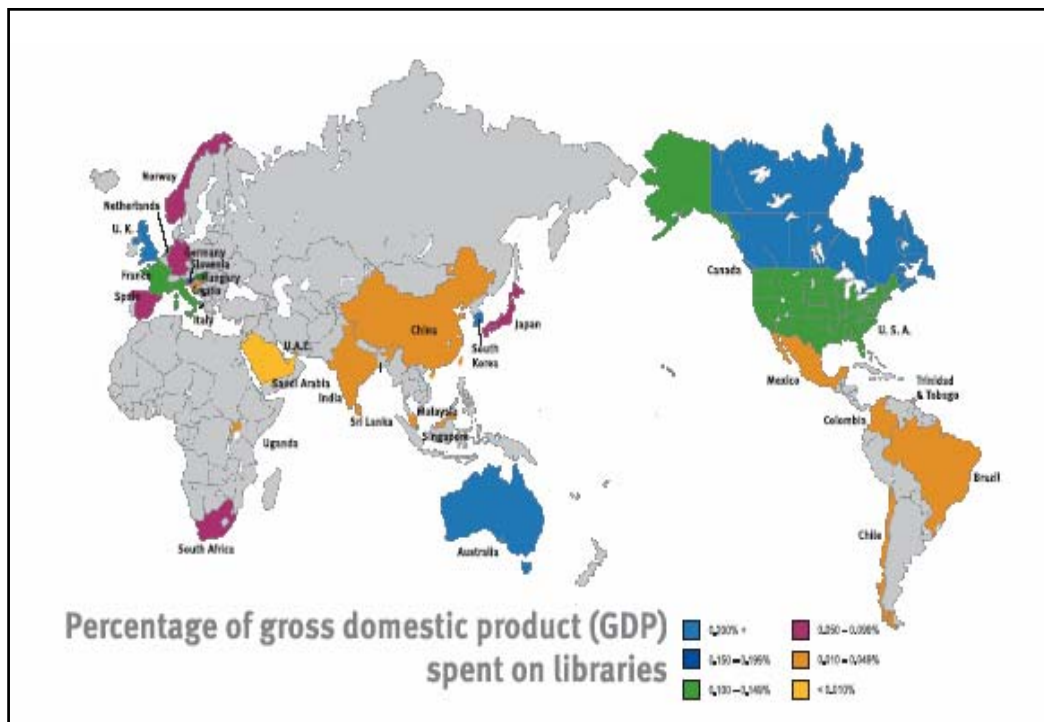
# 資訊時代編目員面臨的衝擊

陳昭珍

國立臺灣師範大學圖書資訊學研究所

2004/7/12





### Country library spending

Country	Library Spending (Millions)	% GDP on Libraries	Country	Library Spending (Millions)	% GDP on Libraries	Country	Library Spending (Millions)	% GDP on Libraries
United States	\$ 11,951	0.11%	Spain	\$ 531	0.08%	Malaysia	\$ 28	0.03%
Japan	\$ 3,247	0.08%	China	\$ 218	0.02%	Colombia	\$ 16	0.02%
United Kingdom	\$ 3,221	0.21%	Norway	\$ 179	0.09%	Chile	\$ 13	0.02%
Italy	\$ 1,599	0.14%	Mexico	\$ 104	0.02%	Croatia	\$ 8	0.04%
France	\$ 1,591	0.11%	India	\$ 103	0.02%	Saudi Arabia	\$ 7	0.00%
South Korea	\$ 1,507	0.32%	Brazil	\$ 90	0.02%	Sri Lanka	\$ 3	0.02%
Canada	\$ 1,447	0.20%	Singapore	\$ 70	0.08%	Trinidad & Tobago	\$ 3	0.03%
Germany	\$ 1,353	0.07%	South Africa	\$ 68	0.06%	U.A.E.	\$ 3	0.00%
Australia	\$ 834	0.20%	Hungary	\$ 64	0.10%	Uganda	\$ 1	0.01%
Netherlands	\$ 536	0.13%	Slovenia	\$ 35	0.17%			

Source: Various including LibEcon, UNESCO, *World Encyclopedia of Library and Information Services* and estimates for certain countries.

## 一些新的編目實例

- FRBR 的實際應用：IU Digital Music Library
- Metadata的串連及視覺化呈現
- 知識分類體系：分類表、索引典及 topic maps

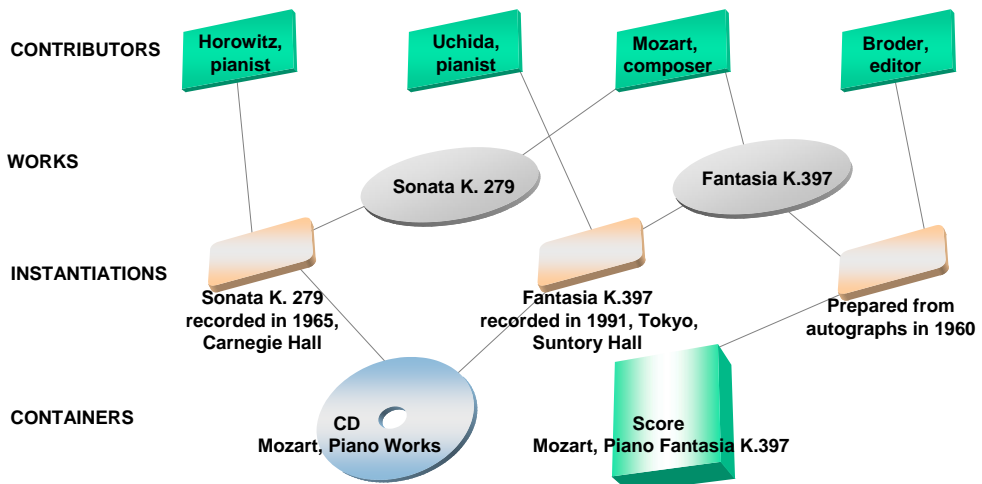
## Variations 1

- Variations
  - Production DL of sound recordings (~8000 titles) and scores (~200 titles) in IU Cook Music Library
  - Used for course reserves and general collection access
- Variations = production service
- Variations2 = R&D system

# Variations2 system

- Integrated access to music in all formats
  - Digital audio recordings
  - Score images
  - Score notation
  - Video
- Delivery to wide range of users
  - Faculty: teaching, course design, research
  - Students: coursework, independent study
  - Music librarians, other library users
  - Extensible
- Multiple user interfaces
- Staged development

## Variations2 Data Model: Example





# Work Structure: Example

## Beethoven, Symphony No. 7

- Movement 1: Poco sostenuto
- Movement 2: Allegretto
- Movement 3: Presto
- Movement 4: Allegretto con brio

Arturo Toscanini, NBC Symphony  
Beethoven,  
*Symphonies No. 7 and No. 2*  
Symphony No. 7

- 0:00 to 11:07
- 11:07 to 19:11
- 19:11 to 26:10
- 26:10 to 33:02



Pierre Monteaux, London Symphony  
Beethoven,  
*Symphonies No. 2, 4, 5, 7*  
Symphony No. 7

- 30:31 to 42:35
- 42:35 to 51:19
- 51:19 to 60:31
- 60:31 to 67:10



Dover miniature score, Beethoven, *Symphony No. 7*

- Pages 1-29
- Pages 30-40
- Pages 41-64
- Pages 65-89



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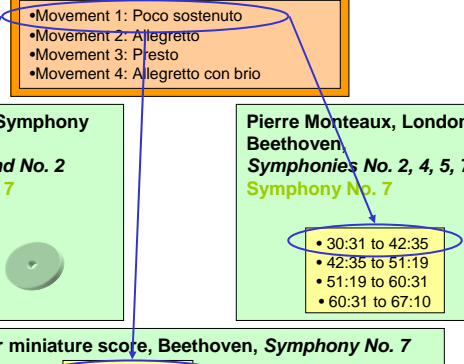
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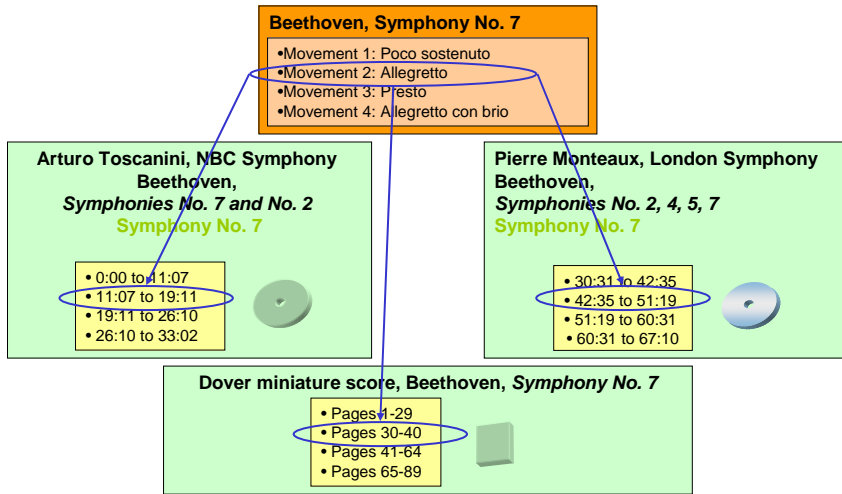
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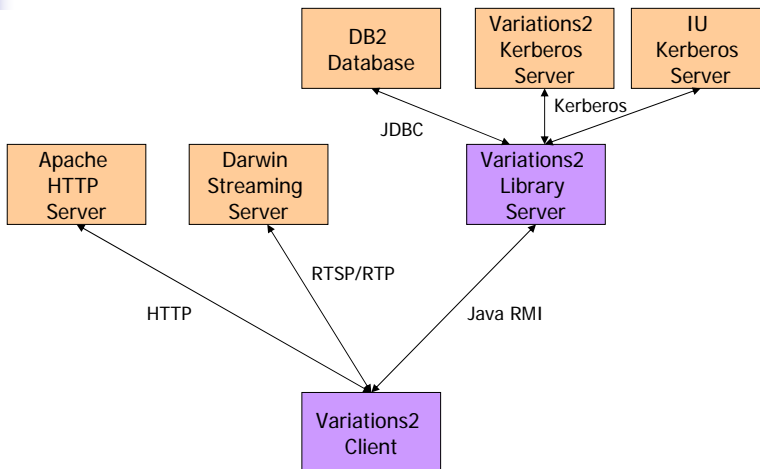




# Work Structure: Example



# Variations2 1.0 Communications



	Orchestral	Sonata	Variations	Other
<a href="#">Beethoven</a>				<a href="#">Sonata for cello and piano ...</a> <a href="#">Variations on a theme ...</a>
<a href="#">Brahms</a>				<a href="#">Cello sonata no.1 ...</a> <a href="#">Variations in F flat ...</a> <a href="#">3 pieces, op. 8 ...</a>
<a href="#">Martinu</a>				<a href="#">Trio sonata in G major</a> <a href="#">Cello Concerto no. 1 ...</a> <a href="#">Sonata no. 1 for piano and...</a> <a href="#">2 pieces, op. 10 ...</a> <a href="#">Variations on a theme ...</a>

Figure 3. Visualization of Search Results

### Cello Concerto no.1

Composer: [Bohuslav Martinu](#)  
Composed: 1930  
First Performed: 28 January 1931

#### Online Media

Published	Recordings	Scores
1955 1959 1978 1992 1996	 <div style="border: 1px solid gray; border-radius: 10px; padding: 5px; display: inline-block; margin: 5px;">             Concerto No. 1 for Cello and Orchestra, performed by Janos Starker in 1955           </div>	

#### Related Resources

[New Grove Dictionary of Music and Musicians](#)  
Online list of chamber works by Martinu is available

[Bohuslav Martinu Foundation website](#)  
Offers list of works (in Czech) and many other resources

Figure 4. Work Window



## Bohuslav Martinu

Born: 8 December 1890, in Policka, Bohemia

Died: 28 August, 1959

### Works by Martinu

Composed **Chamber Operas** Orchestral

1928



1930



1936



1938



1942



1953



Cello Concerto no. 1

### Related Resources

[New Grove Dictionary of Music and Musicians](#)  
Online article on Bohuslav Martinu is available

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Offers list of works (in Czech) and many other resources

Figure 5. Composer Window

the digital library holdings provide a syllabus, either

The screenshot shows a web browser window displaying a digital library page for Ludwig van Beethoven's *Fidelio*. The page title is "Ouverture zu der Oper Fidelio Op. 72". The notation is for the "Ouverture" in G major, Op. 72, by Ludwig van Beethoven. The score is in 3/4 time and includes parts for Flute, Oboe, Clarinet in A, Bassoon, Trumpet in E-flat, Trombone in E-flat, and Timpani. The tempo is marked "Allegro" and "Adagio". The score is displayed in a standard musical notation format with staves for each instrument and a grand staff for the piano accompaniment.

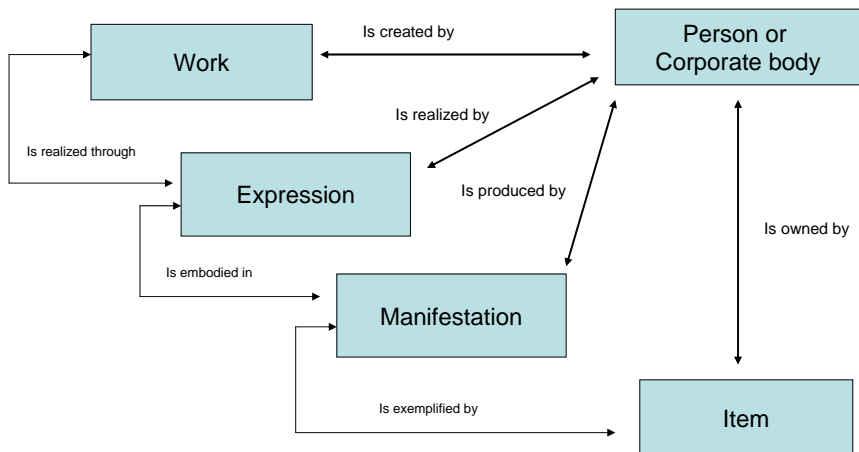




# 第一層架構—實體(Entities)表現圖

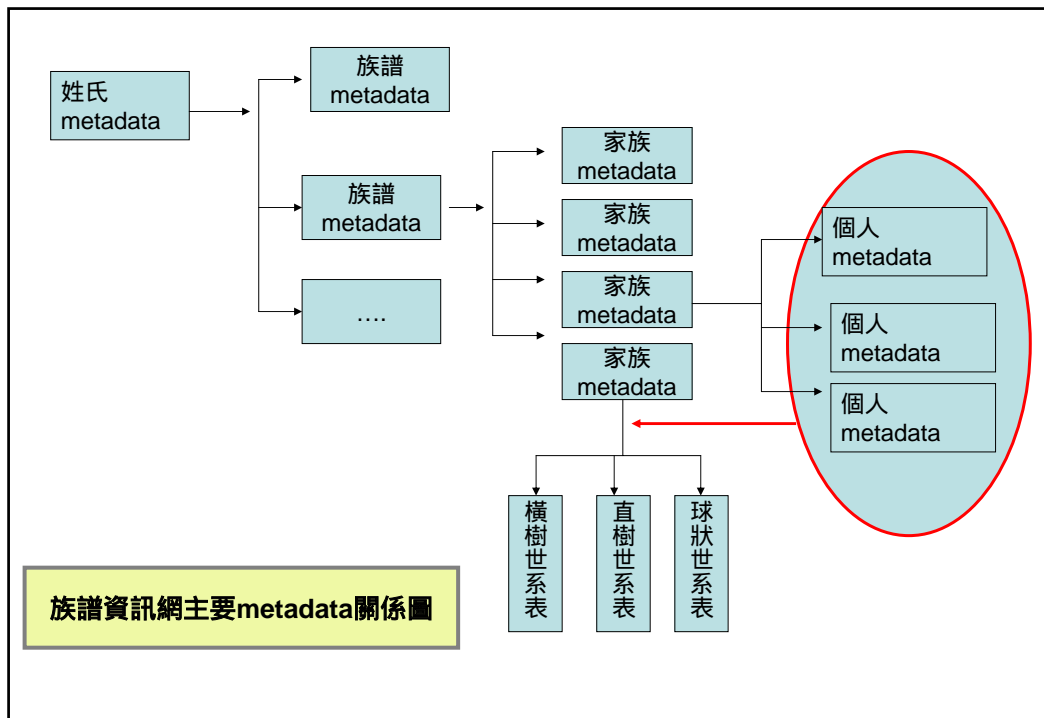


# IFLA FRBR Entities



# 一些新的編目實例

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- Metadata的串連及視覺化呈現
- 知識分類體系：分類表、索引典及 topic maps





Microsoft Internet Explorer

臺灣族譜網

尋根 / 家族資料庫查詢

字號名稱

林國仁家族

Microsoft Internet Explorer

Microsoft Internet Explorer

臺灣族譜網

尋根 / 人名資料庫查詢

博士 謝德  
 姓謝 男  
 文淵 謝汝祥  
 子女 謝明山 (1)  
 子女 謝德山 (2)  
 子女 謝仁地 (3)  
 子女 謝仁南 (4)  
 兄弟姊妹 謝德 (3)  
 兄弟姊妹 謝德 (2)  
 兄弟姊妹 謝德 (4)  
 兄弟姊妹 謝德 (3)  
 結婚地 臺灣省基隆  
 家台籍 臺灣省基隆  
 代譜 1

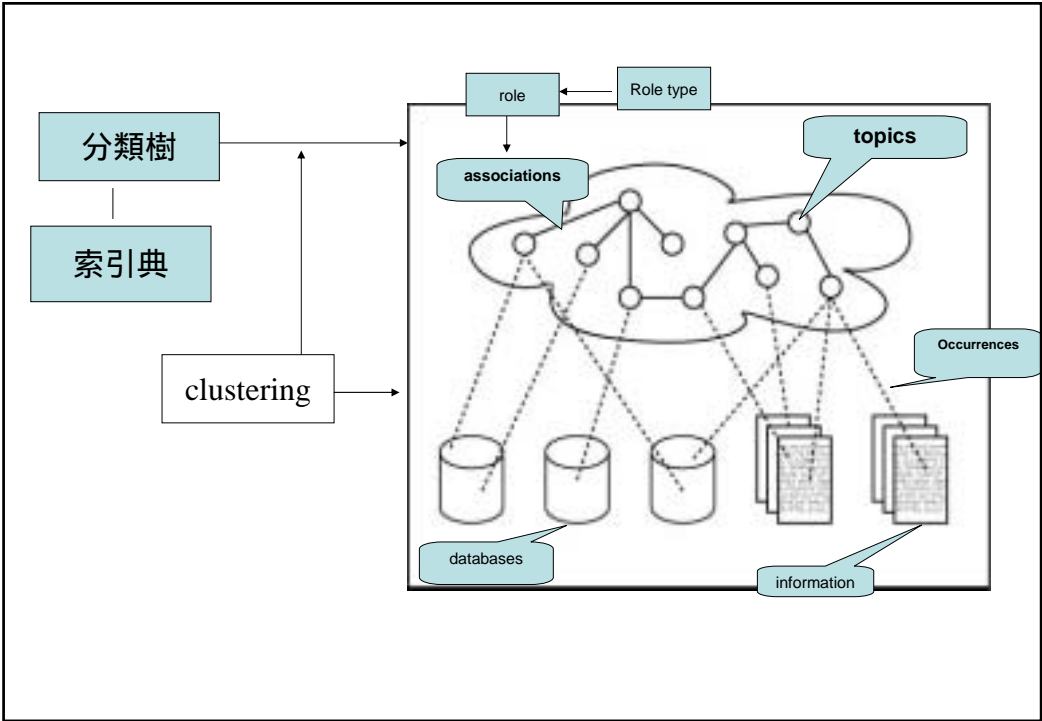
Microsoft Internet Explorer



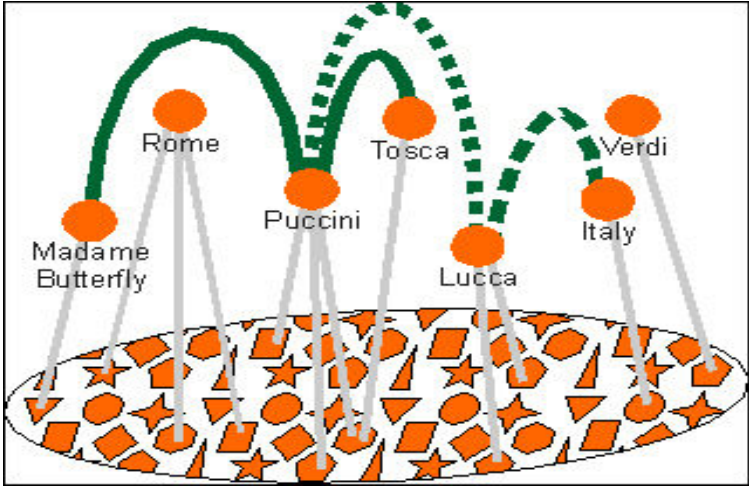


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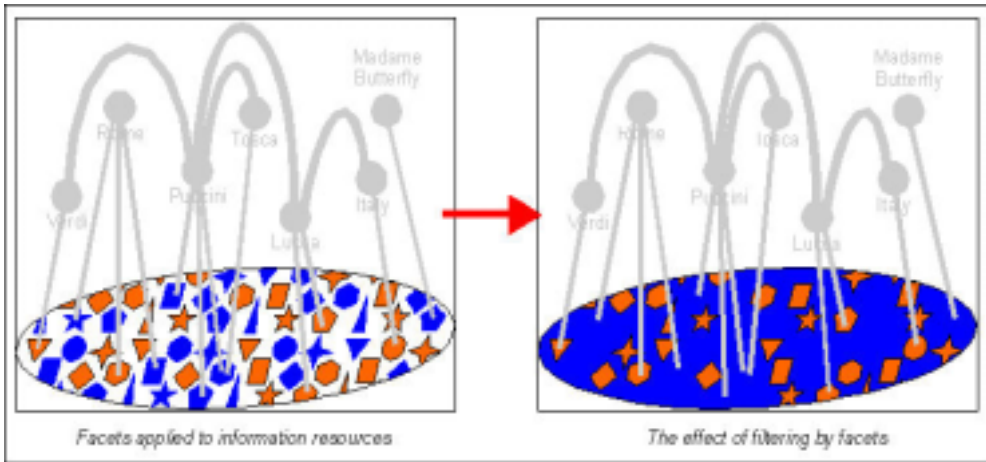


Topic maps 可做為 Portable semantic networks





利用topic maps 做資訊過濾



## 利用topic maps建立網站資料的階層式分群(Hierarchical Clustering)

- 資料之間有從屬關係
- 形成樹狀結構





# The Library Landscape

- The Social Landscape
- The Technology Landscape

Source; The landscape, OCLC

# The Social Landscape

- Staffing
- New roles
- Accommodating users
- Traditional versus nontraditional content
- Preservation and persistence
- Funding and accountability
- collaboration

## Staffing: key points interviewed by OCLC

- 很多年長者要退休，新進者必需熟知 e-material and virtual services
- 我們需要組織免費的網路資源嗎
- 要讓年長的館員徵集未出版的資料，相當困難
- 圖書館員需重新分配工作，處理digital scholarship, open-source projects等事務
- 有很多館長並非圖書館專業
- 年輕的館員希望設計的系統是meet users where they are
- 圖書館員無冒險精神
- 並無繼續教育
- We're well aware of trends and issues但是很多館員並不想改變現狀



### Anatomy of a Gen X librarian: "Energized and excited"



**Profile:**

Female, age 28  
Librarian, Communications Studies

**Education:**

B.A. History—University of Idaho,  
MLIS University of Washington

**Learning style:**

Learns by doing, not by "seat" learning

**Favorite pastimes:**

Antiquing  
Reading

## Staffing

- Collectively, we feel we need to do everything ourselves – we need to get over this
- Working collaboratively with people to make things happen

## New roles: key points interviewed by OCLC

- The library should serve as a community/civic center
- 公共圖書館應匯集社區資訊並與其他地方性組織合作
- Retail expectations
- Access is a form of sustainability
- 館藏發展難在new formats and delivery mechanisms
- 由於讀者自web上 self-service，圖書館典藏使用降低，一般民眾使用之資料，大量降低其傳統通路- 如圖書館
- 圖書館應該成為其他社群之資訊管理資源
- 圖書館應與更多元的機構一起工作
- 圖書館要積極推動e-learning, 而非成為他人的partner

## Accommodating users

- 避免由圖書館員的角度看事情，應由讀者的角度看事情
- 使用者不太在意資料是web pages, a book or a serial
- Personalization and categorization 真的很重要
- 圖書館員低估使用者查尋 web的能力
- 使用者在圖書館中satisfaction with self-service的比例很高
- 圖書館員不可能change user behavior
- 對使用者而言，“方便” 非常重要

## Traditional versus nontraditional content

- Collection-centric is old-fashioned, context is the king
- Context means adding intellectual value to content
- 以POD方式買書應較為便宜
- We need a way to bring together all content on a topic, not just what's in the catalog
- 圖書館應將一般已出版書的館藏留給Amazons
- 圖書館的特藏應該liberated and desegregated


## Preservation and persistence

- 數位保存是國家層次的問題
- 目前的目錄無法建立主題性的瀏覽方式
- 數位化的目的在流通而非典藏

## Funding and accountability

- 技術不是問題，經費才是
- 圖書館對內容的價格有不實際的期望 – 因為他們對出版經濟不了解
- 數位內容對經費控制一點幫助都沒有
- 我們需要更有彈性的數位內容電子商務模式

collaboration



*Sustainability  
is only possible  
through  
collaboration.*



# The Technology Landscape

- An increasingly interconnected environment
- Network services and architecture
- New standards
- Universal access to information

## An increasingly interconnected environment

- 為何環境有越來越多的連結需求
  - 數位時代圖書館需有更多的系統支援
  - 聯盟的成立及其他的合作計畫迫使系統需連結
  - 需與非圖書館單位連結，如校園入口網站或教學系統
  - 跨應用系統的單一授權服務

## An increasingly interconnected environment

- System support
  - Library management system
  - Digital object management system
  - Portal or metasearch system
  - Resolver/Linker
  - ILL/resource sharing system
- Growth of formalized sharing
- Interconnecting and interoperability

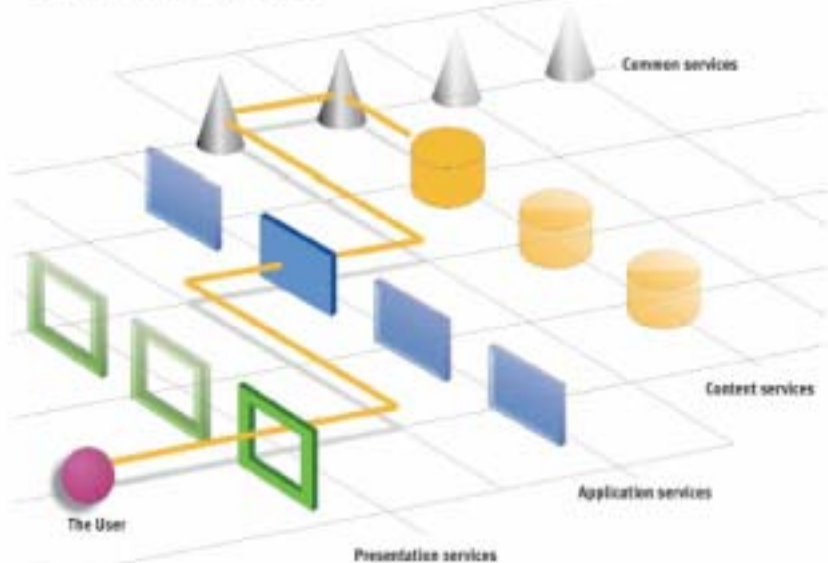
## The Technology Landscape

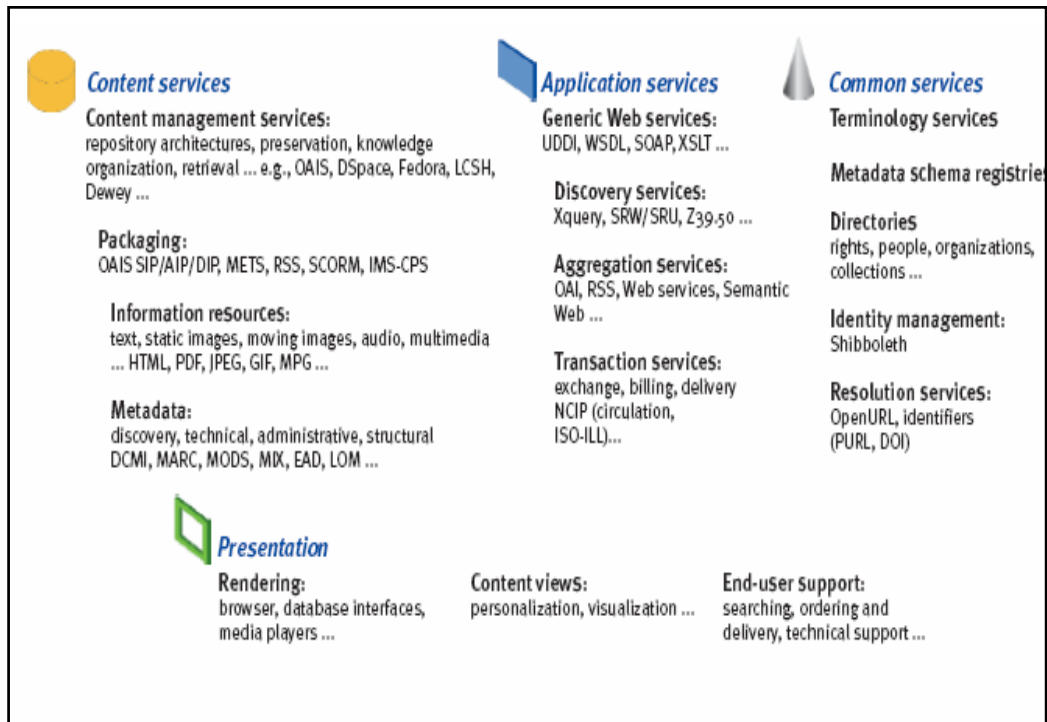
- An increasingly interconnected environment
- **Network services and architecture**
- New standards
- Universal access to information

# Network services and architecture

- Presentation services
- Application
- Content services
- Common services

Application architecture





## The Technology Landscape

- An increasingly interconnected environment
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- **New standards**
- Universal access to information

## New standards

- Repository and content standards
  - OAIS
  - Preservation
  - Content packaging
  - Content exchange
  - Metadata
- Application
  - Cross searching: Z39.50
  - Harvesting: OAI
  - Resolution: OpenURL
  - Niche library transaction application: NCIP and ILL

## The Technology Landscape

- An increasingly interconnected environment
- Network services and architecture
- New standards
- **Universal access to information**

## Universal access to information

- Semantic web
- Web services
- Grid computing
- Wireless technology

## 資訊時代編目員面臨的衝擊

- 我們不是唯一做資訊組織的人
- Metadata格式多元，MARC只是其中的一種
- 過去的資訊組織方法無法滿足主題瀏覽的需求
- 彈性的主題知識體系的呈現
- 更視覺化的目錄介面
- 有太多新科技、新標準需要澈底了解及實作
- 我們需要重新考慮圖書館的經營型態，當然包括分類編目模式